### SCI ENGINEERING, INC.



GEOTECHNICAL
ENVIRONMENTAL
NATURAL RESOURCES
CULTURAL RESOURCES
CONSTRUCTION SERVICES



Ms. Virginia Wetterau Hillcrest Redevelopment 19 Old Ranch Road Laguna Niguel, California 92677

RE: Asbestos Survey Activities

Dean Lands - 109 South Rucker Avenue (South Tan Building)

Rolla, Missouri

SCI No. 2015-7023.26

Dear Ms. Wetterau:

### INTRODUCTION

SCI Engineering, Inc. (SCI) is pleased to submit this report of the analytical test results for samples of suspect asbestos-containing materials (ACMs) collected during the survey performed on May 9, 2017. The purpose of this survey was to identify ACMs in accessible areas of the above-referenced located. This survey is intended to satisfy the requirements for the asbestos National Emission Standard for Hazardous Air Pollutant for demolition and renovation. It is not intended to be used for Occupational Safety and Health Administration (OSHA) compliance.

The on-site structure is considered the south tan building address as 109 South Rucker Avenue. The on-site structure is 4,600-square-foot commercial/warehouse building, which was constructed in the 1960s. The exterior was brick and concrete masonry unit (CMU) with metal windows and a metal roof. No HVAC system was observed. No thermal system insulation (TSI) was observed.

### ASBESTOS SURVEY

Twenty-four samples were collected from the on-site structure. Of these 24 samples, 12 were analyzed using a positive stop procedure. These samples were analyzed by Polarized Light Microscopy (PLM). Of the 12 samples analyzed, 12 were found to contain asbestos. Analytical test results and chain-of-custody documentation are enclosed. The results of the analysis of all samples are summarized in Table 1

Table 1 – Summary of Analytical Test Results

Sample Number	Material Location	Material Description	Approx. Qty.	Result	Category
109A-1a		Grey with White Streaks 12" X 12 Floor Tile (on Concrete, Mixed with Other Floor Tile)		5-10% Chrysotile in Mastic; None Detected in Tile	
109A-1b	Throughout		1,150 sf	5-10% Chrysotile in Mastic; None Detected in Tile	NCI
109A-1c				5-10% Chrysotile in Mastic; None Detected in Tile	

sf – square feet

NCI - Non-Friable Category I Material

Table 1 – Summary of Analytical Test Results (continued)

Sample Number	Material Location	Material Description	Approx. Qty.	Result	Category
109A-2a	Throughout	Grey with Grey Streaks 12" X 12 Floor Tile (on Concrete, Mixed with Other Floor Tile)	875 sf	5-10% Chrysotile in Tile and Mastic	NCI
109A-3a	Throughout	Tan 9" X 9" Floor Tile (on Concrete, Mixed with Other Floor Tile)	875 sf	10-15% Chrysotile in Tile; None Detected in Mastic	NCI
109A-4a	Throughout	Brown 9" X 9" Floor Tile (on Concrete, Mixed with Other Floor Tile)	100 sf	5-10% Chrysotile in Tile; None Detected in Mastic	NCI
109A-5a	Throughout	Black with White Specks 9" X 9" Floor Tile (on Concrete, Mixed with Other Floor Tile)	150 sf	5-10% Chrysotile in Tile and Mastic	NCI
109A-6a	Exterior	Window Caulk	4 Windows	5-10% Chrysotile	NCII
109A-7a				<1% Tremolite	
109A-7b	Exterior CMU Walls		2,400 sf	<1% Tremolite	Non- ACM
109A-7c		()		<1% Tremolite	
109A-8a	Exterior	Door Caulk	3 Doors	5-10% Chrysotile	NCII

sf – square feet

NCI - Non-Friable Category I Material

NCII - Non-Friable Category II Material

## **DEMOLITION/RENOVATION**

According to the Missouri Department of Natural Resources (MDNR), any friable or potentially friable ACM equal to or greater than 260 linear feet or 160 square feet is classified as a regulated ACM (RACM) and must be removed prior to demolition or renovation which would significantly damage the material.

The window/door caulk is a Category II non-friable material and according to the rule outlined above, is not, by definition, an RACM. It is the opinion of the MDNR that demolition activities will not render the material friable, and therefore, it is not required to be removed prior to demolition.

The floor tile and mastic (represented by samples 109A-1abc, 109A-2a, 109A-3a, 109A-4a and 109A-5a) on concrete are Category I non-friable materials and would not normally require removal. However, it is MDNR's opinion that demolition activities including ACM on a concrete floor slab such as breaking up the floor slab and tracking over ACM tile with heavy equipment will render them friable. Because the demolition activities will render the floor tile friable, it must be removed prior to demolition. If the concrete is not to be ground or used as fill, the ACM mastic can remain in place. In addition, concrete with attached ACM is not considered clean fill.

The CMU insulation was analyzed and detected that the insulation was comprised of less than one percent asbestos. However, NESHAP defines an asbestos-containing material as any material containing greater than one percent asbestos. Therefore, the CMU insulation is not considered an asbestos-containing material and does not have to be removed prior to demolition if mechanical demolition is planned for the structure. It should be noted that OSHA still considers this material to be an ACM. Therefore, if manual renovation is planned, this material must be treated as an ACM.

The Occupational Safety & Health Administration also has regulations (29 CFR Parts 1910 et al., Occupational Exposure to Asbestos, August 10, 1994) regarding removal of asbestos-containing materials which must be followed.

### REPORTING

Attached is Demolition and Renovation form which has been filled out to the extent possible by SCI. The remaining information must be completed by you.

This report, as well as the completed EPA Notification of Demolition and Renovation form, must be submitted to the MDNR as follows:

MDNR, Air Pollution Control, PO Box 176, Jefferson City, MO, 65102, Mr. Todd Schneiders.

It should be noted that following submittal of the notification form, there is a ten day waiting period before demolition, renovation, or abatement activities can begin.

SCI's asbestos survey entailed visually assessing accessible areas only. If any other suspect asbestos materials are discovered during demolition or renovation, please contact SCI, and we will make arrangements for assessment of these materials. Areas behind walls, under subfloors and above fixed ceilings are considered non-accessible.

If this report is to be used for bidding purposes for asbestos abatement, SCI recommends the contractor visit the site to verify all conditions and quantities.

SCI appreciates the opportunity to be of service to you on this project, and we look forward to working with you in the future. Please contact us if you have any questions or comments regarding the information provided.

Respectfully,

SCI ENGINEERING, INC.

Brian L. Lieb

Missouri State Certified Asbestos Inspector Certificate Number 7011071013MOII16703

**Project Scientist** 

BLL/JBK/EPG/hmm/rah

Enclosure

2015 Project Files\2015-7023 Dean Lands-North and South Parcels\ES\26\109A S. Rucker (S. Tan Bldg.) - Asbestos Survey.doc



# STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES ASBESTOS NESHAP NOTIFICATION OF DEMOLITION AND RENOVATION

OPERATOR PROJECT NO.	PROJECT NO. POSTMARK DATE RECEIVED				NOTIFICATION NUMBER			
I. TYPE OF NOTIFICATION  O - ORIGINAL C - CANCELLED R - REVISION, WRITE REVISION NUMBER								
II. FACILITY INFORMATION (IDE	NTIFY OWN	ER, REMOVAL CON	TRACTOR, AND	OTHER	OPER	(ATOR)		
OWNER NAME	B5000000000000000000000000000000000000		ADDRESS		000000000000000000000000000000000000000	50000000000000000000000000000000000000		000000000000000000000000000000000000000
CITY	COUNTY	Sī		STATE	ZIP CODE			
CONTACT						TELEPHONE NU	MBER	
ASBESTOS REMOVAL CONTRACTOR	<u> </u>		ADDRESS	000000000000000000000000000000000000000	nosaannasaannadaane		**************************************	
CITY	Parameter		J			STATE	ZIP CODE	
CONTACT			TELEPHONE NUMBER	R		TITLE		
DEMOLITION CONTRACTOR	ROMONINGER		ADDRESS		***************************************			
CITY			1		:	STATE	ZIP CODE	
CONTACT			TELEPHONE NUMBER TITLE					
III. TYPE OF OPERATION  D - DEMO D - ORDERED	III. TYPE OF OPERATION  D - DEMO O O - ORDERED DEMO R - RENOVATION E - EMERGENCY RENOVATION							
IV. IS ASBESTOS PRESENT  ☑ YES ☐ NO	Floor Tile	ASBESTOS MATERIAL(S) T	OBE REMOVED					
V. FACILITY DESCRIPTION (INC	LUDE BUILD	ING NAME, NUMBE	R AND FLOOR O	R ROO	M NUI	MBER)	000000000000000000000000000000000000000	
BUILDING NAME	000000000000000000000000000000000000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000		000000000000000000000000000000000000000		***************************************	
ADDRESS					******			
109 South Rucker Avenue								
CITY			·			STATE		
Rolla						SIAIL	ZIP CODE	
SITE LOCATION  109 South Rucker Avenue (South Tan Building)								
	uth Tan Buil	ding)	Phelps			MO	ZIP CODE 65401	
109 South Rucker Avenue (Sou	uth Tan Buil	ding)				MO	1	
109 South Rucker Avenue (Sou	uth Tan Buil	· · · · · · · · · · · · · · · · · · ·				MO	1	
109 South Rucker Avenue (Sou BUILDING SIZE 4,600 sf PRESENT USE	uth Tan Buil	NUMBER OF FLOORS	Phelps PRIOR USE		AGE IN Y	MO	1	
109 South Rucker Avenue (South Building size 4,600 sf PRESENT USE Vacant VI. PROCEDURE, INCLUDING ANALYTICAL I		NUMBER OF FLOORS 1	PRIOR USE Commercial/W	arehou	AGE IN Y 48+	MO	65401	ASBESTOS
109 South Rucker Avenue (South Building Size 4,600 sf PRESENT USE Vacant	METHOD, IF APP	NUMBER OF FLOORS  1 PROPRIATE, USED TO DETE	PRIOR USE Commercial/W	arehou	AGE IN Y 48+	MO	65401	ASBESTOS
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VIII. SCHEDULED DATES DEMO/RENOVATION (MM/DD/YY)			
START: COMPLETE:			
IX. SCHEDULED DATES ASBESTOS REMOVAL (MM/DD/YY)	WEEKDAYS WORK HOUR:	S WEEKEND WO	RK HOURS
START: COMPLETE:			
X. DESCRIPTION OF PLANNED DEMOLITION OR RENOVATION WORK, AND MET	THOD(S) TO BE USED		
XI. DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE	USED TO PREVENT EMISSIONS OF ASB	ESTOS AT THE DEMOLITION A	AND RENOVATION SITE.
XII. WASTE TRANSPORTER			
ADDRESS			
CITY		STATE	ZIP CODE
CONTACT PERSON		TELEPHONE N	JMBER
XIII. WASTE DISPOSAL SITE			
NAME			
LOCATION			
CITY		STATE	ZIP CODE
TELEPHONE NUMBER		L	
XIV. IF DEMOLITION ORDERED BY A GOVERNMENT AGEN	NCY, PLEASE IDENTIFY THE A	AGENCY BELOW	
NAME	TITLE		
AUTHORITY			
DATE OF ORDER (MM/DD/YY) INCLUDE A COPY OF THE ORDER.	DATE ORDERED TO BEGIN (M	M/DD/YY)	
XV. FOR EMERGENCY RENOVATIONS			
A. DATE AND HOUR OF EMERGENCY (MM/DD/YY)			
B. DESCRIPTION OF THE SUDDEN, UNEXPECTED EVENT			
C. EXPLANATION OF HOW THE EVENT CAUSED UNSAFE CONDITIONS OR WOUL	LD CAUSE EQUIPMENT DAMAGE OR AN	UNREASONABLE FINANCIAL E	BURDEN
XVI. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT L CRUMBLED, PULVERIZED, OR REDUCED TO POWDER.  Stop work and contact a licensed inspector.	JNEXPECTED ASBESTOS IS FOUND OR F	PREVIOUSLY NONFRIABLE AS	SBESTOS MATERIAL BECOMES
XVII. I certify that an individual trained in the provisions of this re renovation and evidence that the required training has been account business hours (required 1 year after promulgation).			
SIGNATURE OF OWNER/OPERATOR		DATE	
XVIII. I Certify that the above information is correct.			
SIGNATURE OF OWNER/OPERATOR		DATE	
MO 780-1923 (5-05) REGULATED DEMOLITIONS: PLI	EASE ATTACH COPY OF ASBESTO	S INSPECTION	PAGE 2 OF 2

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# BULK SAMPLE ANALYSIS

Client: SCI Engineering, Inc. - St. Charles

Date Received: 05-11-17

Project No.: 2015-7023.26

Project Name: Dean Lands - North and South Parcels Date Reported: 05-12-17

# Technique: Polarized Light Microscopy with Dispersion Staining In accordance with EPA/600/R-93/116 Test Method

Lab No.	Sample No.	Asbestos Detected & Percentage *	Fibrous Material	Non-Fibrous Material
313777	109A-1a	None Detected		Binders, Vinyl, Aggregate
		5-10% Chrysotile in M	astic	Black Tar Binders
313778	109A-1b	None Detected		Binders, Vinyl, Aggregate
		5-10% Chrysotile in M	astic	Black Tar Binders
313779	109A-1c	None Detected		Binders, Vinyl, Aggregate
		5-10% Chrysotile in M	Mastic	Black Tar Binders
313780	109A-2a	5-10% Chrysotile	Antigorite	Binders, Vinyl, Aggregate
		5-10% Chrysotile in M	[astic	Black Tar Binders
313781	109A-3a	10-15% Chrysotile	Antigorite	Binders, Vinyl, Aggregate
		None Detected in Mast	ic	Black Tar Binders
313782	109A-4a	5-10% Chrysotile	Antigorite	Binders, Vinyl, Aggregate
		None Detected in Mast	cic	Black Tar Binders

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FLORISSANT, MISSOURI 63031

TEL/FAX (314) 838-5052

<sup>\*</sup> The upper detection limit is 100 percent. The lower detection limit is less than 1 percent.

BULK SAMPLE ANALYSIS

Client: SCI Engineering, Inc. - St. Charles

Date Received: 05-11-17

Project No.: 2015-7023.26

Project Name: Dean Lands - North and South Parcels

Date Reported: 05-12-17

# Technique: Polarized Light Microscopy with Dispersion Staining In accordance with EPA/600/R-93/116 Test Method

Lab <u>No.</u>	Sample No.	Asbestos Detected & Percentage *	Fibrous Material	Non-Fibrous Material
313783	109A-5a	5-10% Chrysotile	Antigorite	Binders, Vinyl, Aggregate
		5-10% Chrysotile in	Mastic	Black Tar Binders
313784	109A-6a	5-10% Chrysotile		Binders, Paint
313785	109A-7a	< 1% Tremolite		Binders, Mica
313786	109A-7b	< 1% Tremolite		Binders, Mica
313787	109A-7c	< 1% Tremolite		Binders, Mica
313788	109A-8a	5-10% Chrysotile		Binders, Paint

\* The upper detection limit is 100 percent.
The lower detection limit is less than 1 percent.

Paul Spell Laboratory Director

AIHA Bulk Asbestos Proficiency Analytical Testing Program ID # 101228 In Association with RTI Center for Measurements and Quality Assurance

The USEPA (United States Environmental Protection Agency) has not determined the health effects of Actinolite or Tremolite presence in Zonolite. The EPA recommends that any presence of asbestos in Zonolite insulation should be treated as an Asbestos Containing Material. Some fibers in the Zonolite insulation material may be processed to less than one micron in length. Because these fibers are not detected by PIM, PIM analysis may yield a false negative result. We recommend qualitative analysis of Zonolite by Transmission Electron Microscopy (TEM).

PLM is not recommended for analysis of vinyl floor tile. Vinyl floor tile often contains milled asbestos with fiber lengths of 1 micrometer or less. Because these fibers are not detected by PLM, PLM analysis may yield a false negative result. We recommend qualitative analysis of vinyl floor tile by Transmission Electron Microscopy (TEM).

Precision Analysis assumes no responsibility for financial or health consequences for action or lack of action taken by our clients or their agents as a result of these analytical reports. Since Precision Analysis was not involved in the collection of these samples, we cannot attest to the proper collection of said samples and therefore are neither responsible nor liable for the accuracy, validity or completeness of the sample collection.

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FLORISSANT, MISSOURI 63031

TEL./FAX (314) 838-5052



# BULK ASBESTOS CHAIN OF CUSTODY

130 Point West Boulevard St. Charles, Missouri 63301 636-949-8200 Fax 636-949-8269 www.sciengineering.com

Company:	SCI Engineering, Inc.		Please Provide Results Via: 🔲 Fax 👪 Email 🚨 Mail					
Street:	130 Point West Boulevard	***************************************	To: Brian Lieb					
City/State/Zip:	St. Charles, Missouri 63301		Telephone #: 314-956-8240 Fax #: 636-949-8269					
Project Name: Dean Lands - North and South Parcels				Email: blieb@scie	ngineering.com			
Project Number: 2015	-7023.26	Year	Blacca Chack Onc					
Q 3 Hour	Q 6 Hour	Q 24 Hour	earound Time (TAT) Options  48 Hour	2 72 Hour	Q 96 Hour	Other 5-day		
PLM Bulk Analysis			TEM Bulk Analysis	<u> </u>				
₩ PLM-EPA 600				☐ TEM EPA NOB -	EPA 600/R-93/116 Sectio	n 2.5.5.1		
D PLM-EPA 600 NO				☐ Chatfield Proto	col (semi-quantitative)			
Q PLM-Point Cour	it							
M Check Box for S	top Positive	****						
Comments: 109A S	South Rucker Ave., south tar	n building, lab-on-	grade					
Samplers Name: Bri	an Lieb		Samplers Signatur	<u> کارنگ</u>		Date Sampled: 5/9/17		
8	tion/Features: Commercial/w	arehouse	:		Age: early 60's	<sub>Size:</sub> 4,600 sf		
<sub>Windows:</sub> metal	siding: brick/CN	<sub>Roof:</sub> metal	Attic: N	<u>'A</u>	HVAC: N/A			
Sample #	Material Location		Material Description	Approx. Quantity	Condition	Comments		
109A - 1ABC	Throughout	grey w/	white streaks 12x12 t	f.t. 1,150 sf	good	on conc, mixed with other f.t.		
109A - 2ABC	Throughout	grey w/	grey streaks 12x12 t	t. 875 sf	good	on conc, mixed with other f.t.		
109A - 3ABC	Throughout		tan 9x9 f.t.	875 sf	good	on conc, mixed with other f.t.		
109A - 4ABC	Throughout		brown 9x9 f.t.	100 sf	good	on conc, mixed with other f.t.		
109A - 5ABC	Throughout	black v	// white specks 9x9 t	t. 150 sf	good	on conc, mixed with other f.t.		
109A - 6ABC	EXT		window caulk	4 windows	good	/nv		
109A - 7ABC	EXT - CMU Wall	S	Vermiculite Ins.	2,400 sf	good	in CMU		
109A - 8ABC	EXT		Door Caulk	3 doors	good			
Relinquished	real The	Date:		/1. V 1/1// Time:	9:49 am			
			. MAY 1	1 2017 <sub>Time:</sub>	4:45pm			
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